

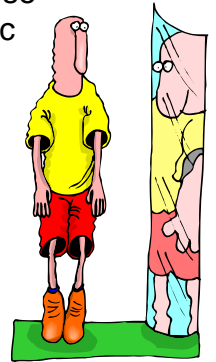
# Body Composition

Body composition describes the percentages of fat, bone and muscle in your body. These percentages provide an overall view of your health and fitness in relation to your weight, health, and age. Weight and fat are often used together, but they are not interchangeable. Being overweight does not imply obesity -- in fact, many physically fit people are overweight due to muscle gain. However, being "over-fat" poses health risks ranging from heart disease, high blood pressure and diabetes.

It's difficult to determine your body composition accurately. However, less precise and less demanding methods involving underwater weighing or skin fold measurement (where a special calliper is used to measure fat beneath the skin) can give good estimations.



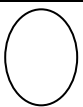
## Body Composition Basics

- ✓ A healthy male's body should be approximately 12 – 18% fat. In females the number is slightly higher; approximately 14 – 20%.
- ✓ Knowing your body composition can help you formulate an exercise program and set sensible fitness goals. Resolving to turn fat into muscle (and not simply to lose weight) motivates you to work on fat-burning aerobic activities and anaerobic muscle-building activities as well. Either way, you are changing your overall body composition from less fat to more muscle.
- ✓ Avoid being "under-fat". Body fat does have some benefits that include energy storage and maintaining body temperature.
- ✓ Your body build (bone structure and shape) is inherited from your parents along with all of your other physical characteristics.

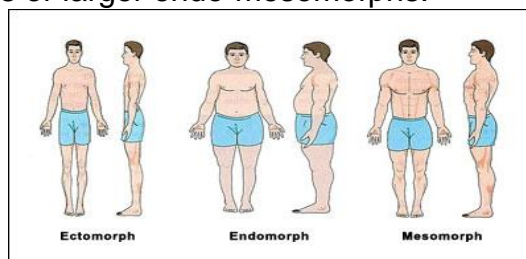


## Basic Body Types

There are three basic body types: Ectomorph, endomorph and mesomorph.

Body type	Basic Shape	Bone Weight	Fat Percent	Muscle Percent	Weight Control	Sports
<b>Ectomorph</b>		Light-weight	Low fat	Low muscle	Gaining weight is difficult.	Basketball, Endurance events
<b>Mesomorph</b>		Medium to Heavy	Low fat	High muscle	Gain and lose weight easily.	Good all around athletes.
<b>Endomorph</b>		Heavy	High fat	Medium to high muscle	Gain weight easily.	Football lineman, Sumo Wrestler

Most individuals do not fit specifically into one category. Instead, they tend to be a combination of categories. Ecto-endomorphs are pear shaped, and mesomorphs can be smaller ecto-mesomorphs or larger endo-mesomorphs.



## Fitness Programs and Body Composition

For many people an important reason for starting on a fitness program is to change their body shape. The question is, what do fitness activities really do for body measurements? Unfortunately for many people, our body characteristics are genetically determined and in general, unchangeable. What you can control is learning how to eat and exercise in a way that emphasizes and develops your strengths, while downplaying those you'd love to change.

### The Essential Facts

1. Exercise can change the shape of the body, but only within the limits imposed by body type. Skinny ectomorphs will always be ectomorphs and larger endomorphs will always be endomorphs. This doesn't mean that ectomorphs can't gain muscle and that endomorphs can't lose weight. It just means that your overall body type cannot change to a different one.
2. Given the limits of body type, three factors affect the body's shape and its measurements.
  - ✓ **FAT:** Reducing body fat reduces girth. For most people eliminating excess fat is the most important factor in shaping up. Fat loss also accounts for the weight people lose when they get in shape.
  - ✓ **MUSCLE MASS:** Certain activities increase muscle mass, thus increasing measurements and helping to contour the body.
  - ✓ **MUSCLE STRENGTH:** Strength affects posture and alignment which in turn affects the overall look of the body.
3. The three factors listed above work together in different ways to affect the shaping of different parts of the body. For example:
  - ✓ **THIGHS, GLUTES AND WAISTLINE:** Most people who are overweight carry a lot of their extra fat here. There is no such thing as a "spot-reducing exercise" which eliminates fat from one selected part of the body. The best way to lose fat from a specific spot is with an overall fat reduction program, combining diet and activity. Fat throughout the entire body will be reduced and as a result, from specific spots too.
  - ✓ **MUSCULAR DEFINITION:** Overall muscular definition is improved, first, by strengthening exercises, which increase the size of the muscles, and second, by fat burning activities, which reduce subcutaneous (under the skin) fat and allow muscle shape to show through.

Name \_\_\_\_\_

## Body Measurements Questions

1. Define the term *body composition*.
2. What can “knowing your body composition” help you do?
3. Where do we get our “body build”?
4. There are three (3) basic body types. List them and briefly describe the characteristics of each one.
5. Which body type do you think you are? Explain why you think this.
6. Sammy a 85 pound, skinny grade nine wants to bulk up to become a offensive lineman in football. Based on information from the article, what would you tell Sammy?
7. State the three (3) factors that affect the body's shape and its measurements and explain the differences between them.
8. Where do most people who are overweight carry a lot of their extra fat?
9. Many fitness products claim to be “spot-reducing exercises”. What is a “spot-reducing exercise”, and what is the best way to narrow the waistline?
10. List the two (2) ways that overall muscular definition can be improved, and give an example of each.